PHOTOGRAPHIC INTERPRETATION REPORT

ABM LAUNCH COMPLEXES E03 AND E21 MOSKVA, USSR

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MARCH 1968

COPY 116

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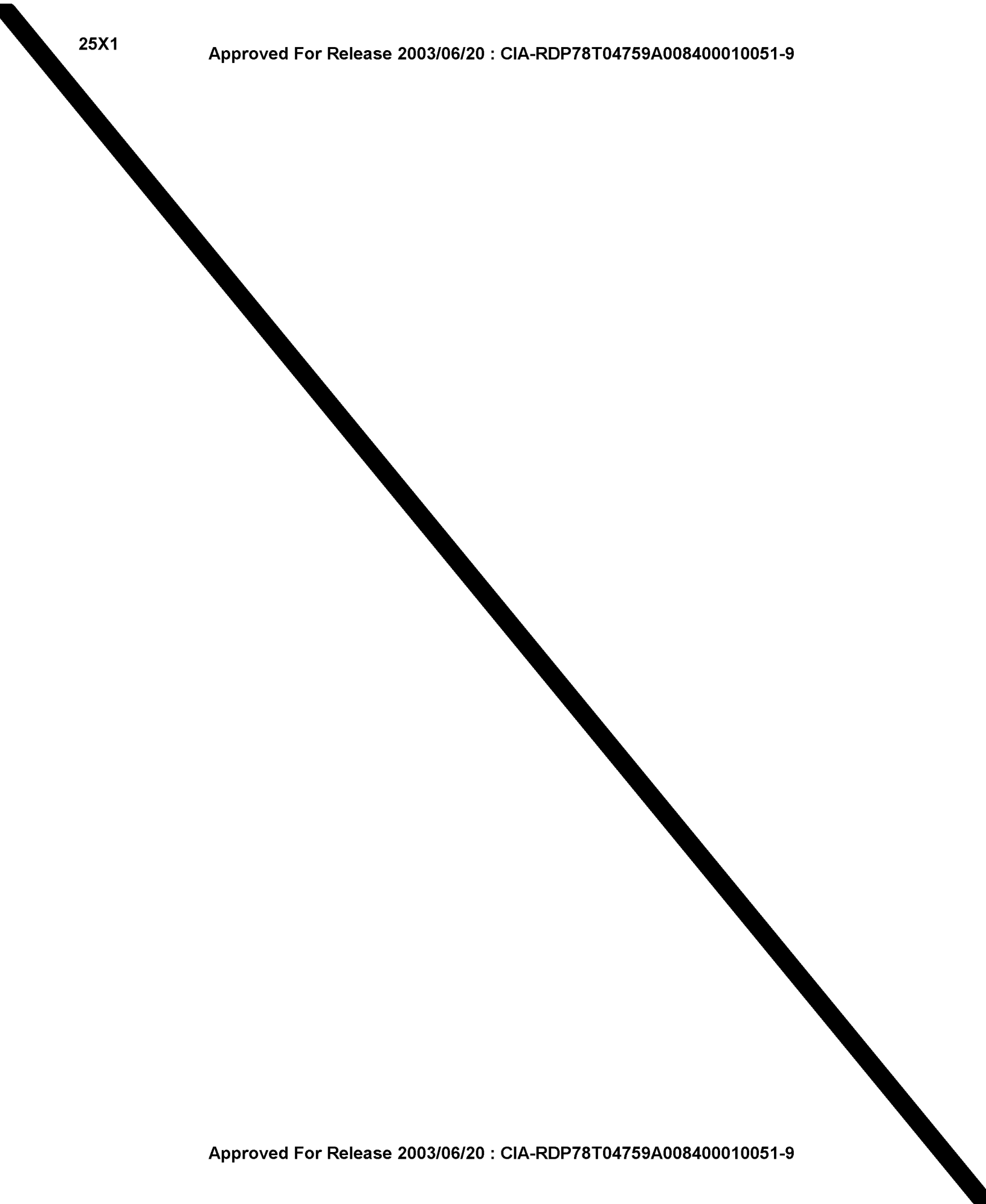

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PHOTOGRAPHIC INTERPRETATION REPORT

ABM LAUNCH COMPLEXES E03 AND E21 MOSKVA, USSR

MARCH 1968

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

PREFACE

The measurements given in this report are considered accurate to the following degree:

ABM Launch Complexes E03 and E21

Horizontal: ±5 feet or 5 percent, whichever is greater.

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Tracking Facility 2, Sary-Shagan Antimissile Test Center

Horizontal: ±5 feet or 3 percent, whichever is greater.

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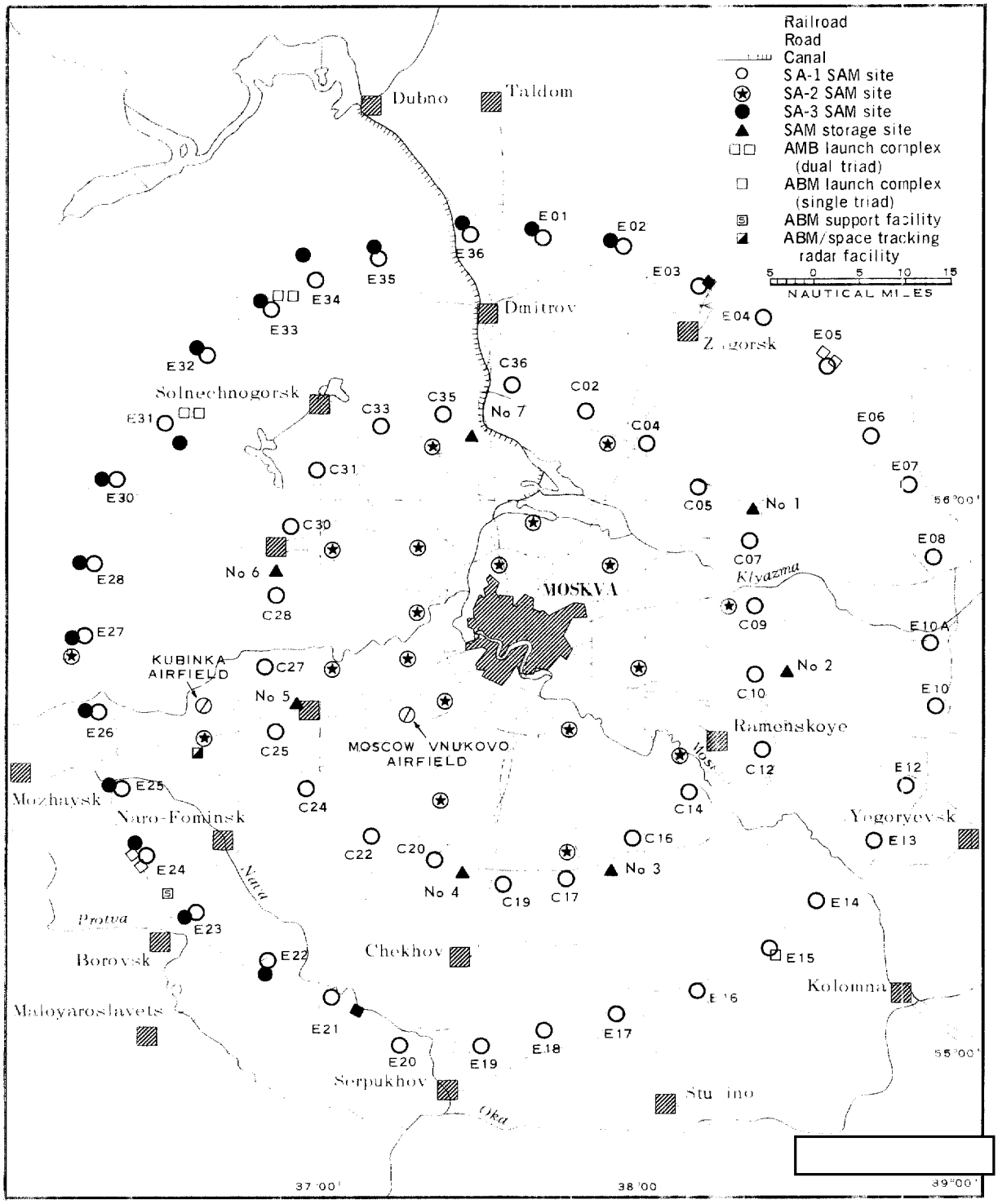


FIGURE 1. LOCATION OF ABM LAUNCH COMPLEXES E03 AND E21, MOSKVA, USSR.

INTRODUCTION

The purpose of this report is to examine [redacted] photographic coverage of the 2 most recently started antiballistic missile (ABM) launch complexes at Moskva, E03 and E21, to consider what appears to be a departure from the previously observed trend of construction at the earlier Moskva launch complexes.

Each of the complexes is located approximately 45 nautical miles (nm) from Moskva, on the outer ring road serving SAM sites and ABM launch complexes around the city (Figure 1). ABM Launch Complex E03 is located in the northeast quadrant at 56-22N 38-11E, and has a ground elevation of approximately 700 feet. ABM Launch Complex E21 is located in the southwest quadrant at 55-04N 37-01E, with a ground elevation of approximately 510 feet.

Triad construction had been predicted at these 2 locations on the basis of the multistory apartment-type buildings present in the support area of each and on the fact that the 2 locations are diagonally opposite each other across the ring of SAM sites around Moskva. With the exception of the 2 dormant sites in the southeast quadrant, E12 and E15, the complexes at E03 and E21 appear to fulfill the presently anticipated ABM deployment around Moskva. 1/

Triad construction at both complexes can be negated in early [redacted] When the site of E21 was next seen, on photography of [redacted] construction of a new road extending off the entrance road to the SA-1 launch area was the first indication that construction of the complex had started. Construction of a new access road at the site of E03, in this case leading from the highway to Zagorsk, was first observed on photography of [redacted] Because of the gaps in the photographic coverage, however, the construction starts could be considered to be concurrent.

During [redacted] activity at both complexes consisted principally of clearing trees and rough grading for the complex service roads and for the sites of the triad buildings. Since dual triads were under construction at each of the other deployed ABM launch complexes, and since areas had been cleared for 2 sets of triads at each complex, it was anticipated at that time that the deployment precedent would be followed. It was further expected that construction of both triads at each complex would continue at the same pace.

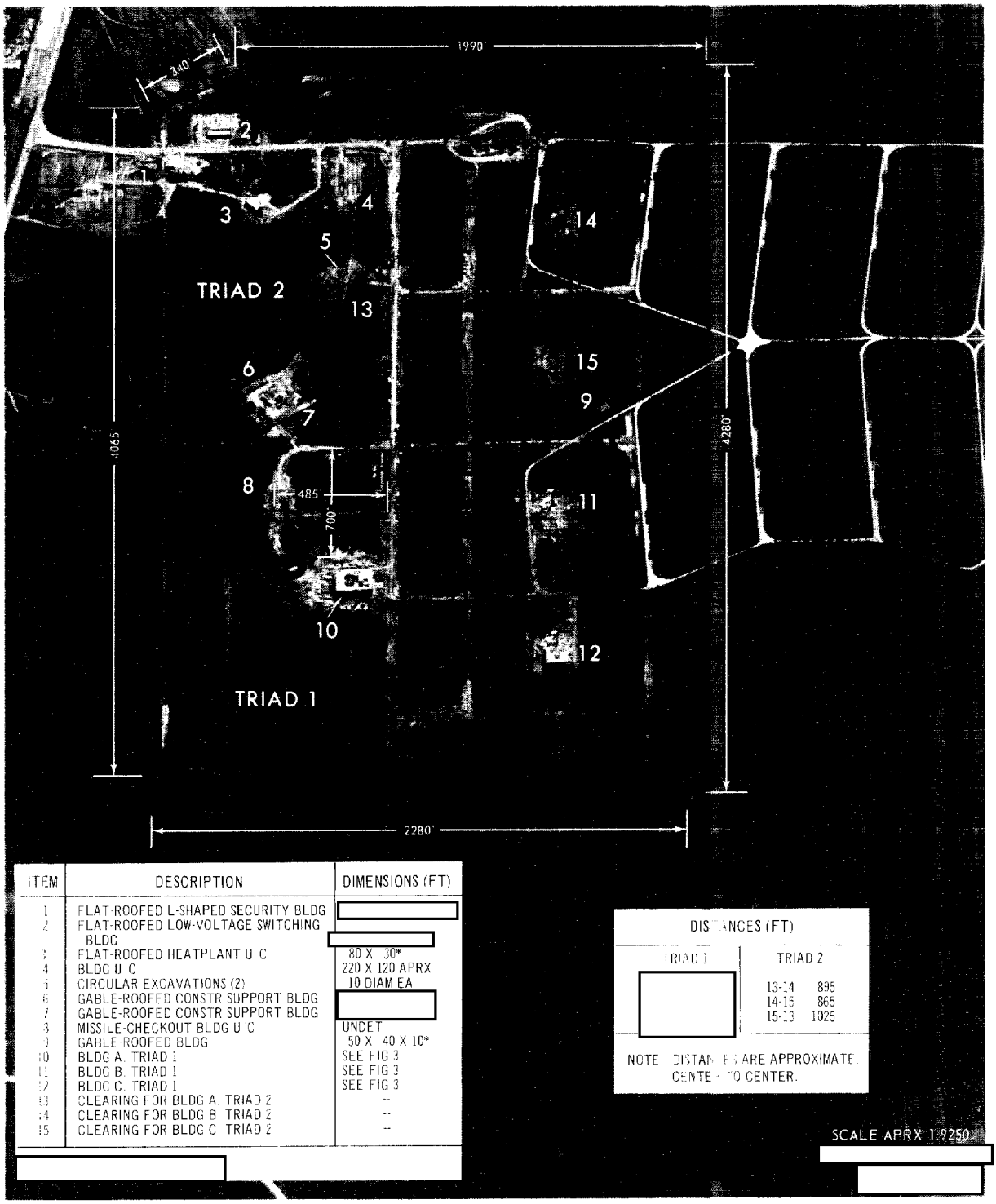
At E03, the complex was built over the east end of the launch area of SAM Site E03-1, thereby eliminating 12 of the SA-1 launch positions. At E21, however, the complex was constructed to the east of the SAM launch area. In each case this may be the optimum location for the particular complex, although there does not appear to be any obvious reason for the variation in the location; placement of a complex away from an SA-1 launch area has occurred only in one other instance, at ABM Launch Complex E31. Both complexes are separately secured: E21 by a double security fence and E03 by a completed single fence and a partially completed second fence.

[redacted] when erection of the superstructures of the principal triad buildings had begun, it became evident that only 1 triad was actively being constructed at each of the complexes. Whether by coincidence or design, it was the triad farthest from the entrance to the complex in each case. (The first triad facility to be constructed at an ABM launch complex is arbitrarily designated Triad 1. There is no correlation between the designation and the relative position of the triad within the complex.)

As of [redacted] the superstructures of the buildings in Triad 1 at each complex have reached a mid-to-late stage of construction. However, other than 2 excavations for buried tanks near the site of Building A, Triad 2, at E03, there has been no indication that construction of the second triad is actively underway at either complex.

ABM LAUNCH COMPLEX E03

Mensuration of the partially completed superstructures of the principal buildings and their separation distances in Triad 1 at E03 reveals that there is no significant dimensional anomaly from those observed at other, more



ITEM	DESCRIPTION	DIMENSIONS (FT)
1	FLAT-ROOFED L-SHAPED SECURITY BLDG	[redacted]
2	FLAT-ROOFED LOW-VOLTAGE SWITCHING BLDG	[redacted]
3	FLAT-ROOFED HEATPLANT U C	80 X 30*
4	BLDG U C	220 X 120 APRX
5	CIRCULAR EXCAVATIONS (2)	10 DIAM EA
6	GABLE-ROOFED CONSTR SUPPORT BLDG	[redacted]
7	GABLE-ROOFED CONSTR SUPPORT BLDG	
8	MISSILE-CHECKOUT BLDG U C	UNDET
9	GABLE-ROOFED BLDG	50 X 40 X 10*
10	BLDG A, TRIAD 1	SEE FIG 3
11	BLDG B, TRIAD 1	SEE FIG 3
12	BLDG C, TRIAD 1	SEE FIG 3
13	CLEARING FOR BLDG A, TRIAD 2	--
14	CLEARING FOR BLDG B, TRIAD 2	--
15	CLEARING FOR BLDG C, TRIAD 2	--

DISTANCES (FT)	
TRIAD 1	TRIAD 2
[redacted]	13-14 895
	14-15 865
	15-13 1025

NOTE: DISTANCES ARE APPROXIMATE CENTER-TO-CENTER.

SCALE APRX 1:9250

[redacted]

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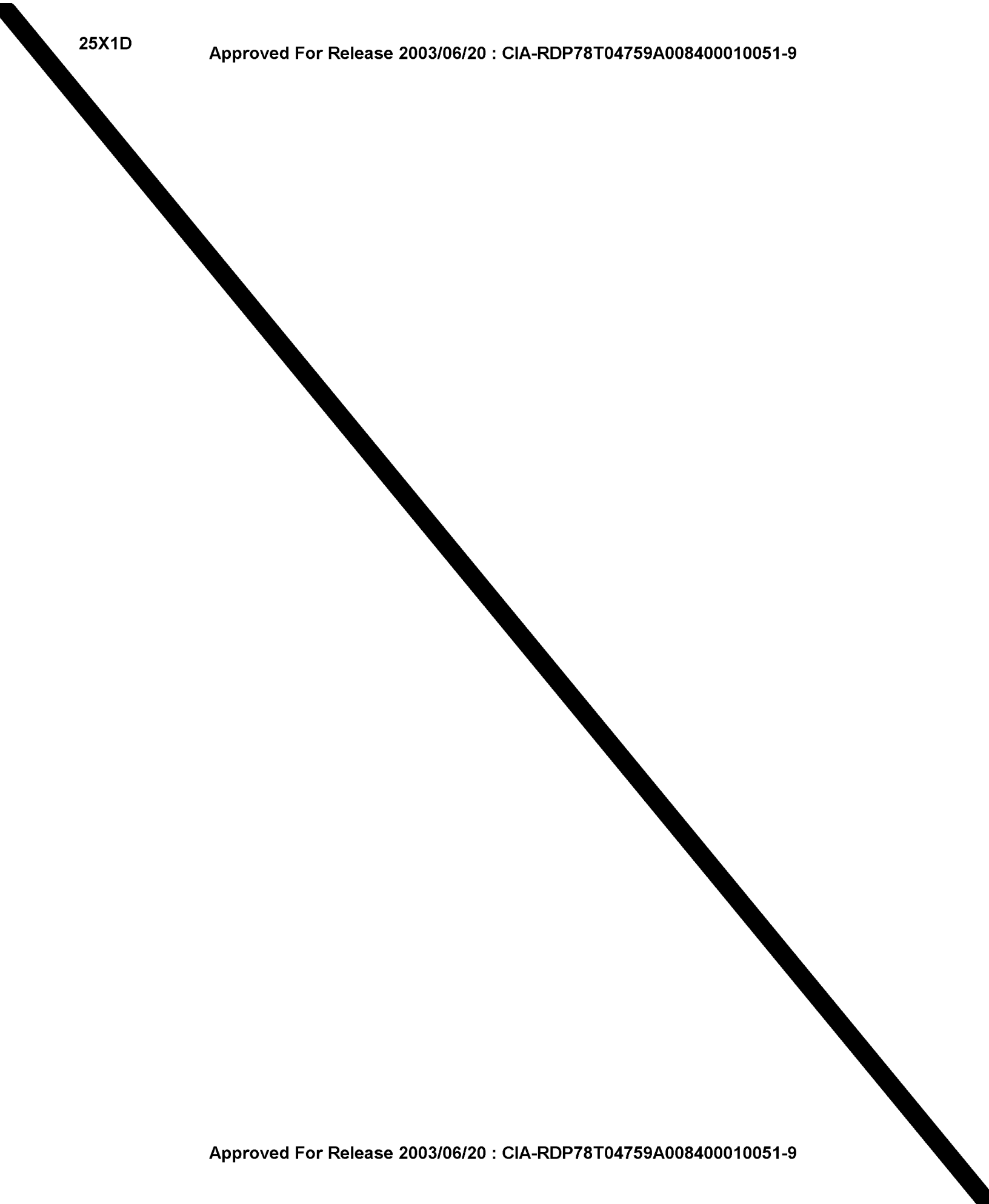
FIGURE 2. LAUNCH AREA, ABM LAUNCH COMPLEX E03. Approximately 12 months after start of construction.



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advanced ABM launch complexes, such as E24 and E33. 2/, 3/ The overall size of the triad buildings at E03 is generally comparable to those found at a typical Triad 2, where the buildings are smaller than equivalent Triad 1 buildings at the original deployed ABM launch complexes.* At the site for Triad 2 at E03, the sizes of the 3 clearings and their separation distances are also compatible with construction of a triad (Figures 2 and 3).

Ancillary facilities under construction at the complex consist of a drive-through missile-
25X1D checkout building, approximately [redacted] feet, near Building A, Triad 1. The drive-
25X1D through bay is approximately [redacted] and is adjacent to a 20-foot section of the building, which will probably contain equipment and tools when the building is operational. The loop road on which this building is being constructed is approximately 485 feet from the service road and is approximately 700 feet long.

The superstructure for a large rectangular building, approximately 215 by 110 feet, has been erected near the entrance to the complex. When the vertical uprights were measured on
25X1D photography of [redacted] they were approximately 20 feet apart, along both the long and short axes of the building. There appeared to be approximately 6 rows of uprights along the short axis and 11 or 12 rows along the long axis. When this building was observed again on
25X1D large-scale photography of [redacted] the roof had been completed and the pattern of the roofing material gave the impression of internal divisions measuring approximately 20 feet wide parallel to the short axis (Figure 3). The purpose or function of buildings of this general size and appearance, which are present at each of the active ABM launch complexes, has not been definitely established.

Also under construction within the secured area of the complex are a heatplant and the low-voltage switching building for the transformer substation.

The support area contains essentially the same buildings and facilities as those found at the more complete deployed ABM launch complexes--that is, it is basically an SA-1 SAM site support area to which a number of multistory apartment-type buildings and other facilities have been added. 3/ When it was observed on large-
25X1D scale photography o [redacted] 3 multistory apartment-type buildings appeared to be externally complete. On [redacted] when
25X1D it was observed on small-scale photography, a fourth building of this type appeared to have reached an advanced stage of construction. Possible foundations for 5 more buildings of this type were noted. No razing of existing facilities to accommodate the apartment construction was observed (Figure 4).

ABM LAUNCH COMPLEX E21

Mensuration of the incomplete superstructures of the principal buildings in Triad 1 at E21 and their separation distances does not reveal any significant dimensional anomaly from other triad construction (Figures 5 and 6). As at E03, the overall building sizes in Triad 1 at E21 are generally similar to the buildings in a typical Triad 2, smaller than those in Triad 1, at the more complete ABM launch complexes. An opening in the roof of Building A, around which the roof has been completed, may indicate that the base for the antenna pedestal is to be constructed separately from the superstructure of the building.

In the Triad 2 area some unusual building construction is underway. A large rectangular building, approximately 255 by 115 feet, is being constructed in a position which appears to be close to or actually over the anticipated location of Building A. Both the large overall size and the orientation of the superstructure (90 degrees from the normal position of Building A) suggest that it is not a modification of the A building in a triad. At this time no correlation can be made between this building at E21 and the modification underway to the triad at Tracking Facility 2, Sary-Shagan Antimissile Test

*The dimensions for the principal buildings in a triad facility presented in this report may differ from those given in a previous publication 3/, but should not be considered to reflect an actual difference in size. The dimensions given in the referenced document should be taken as more accurate.

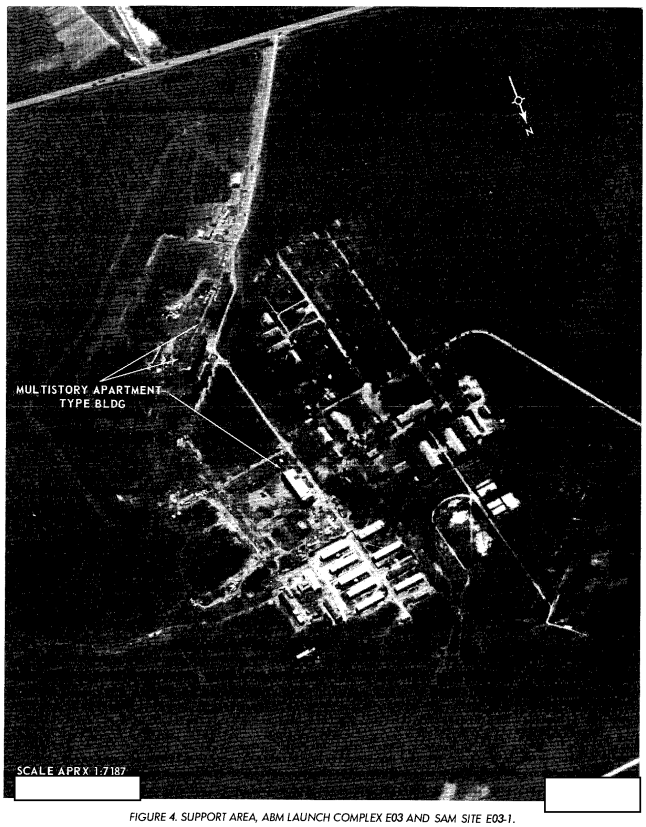

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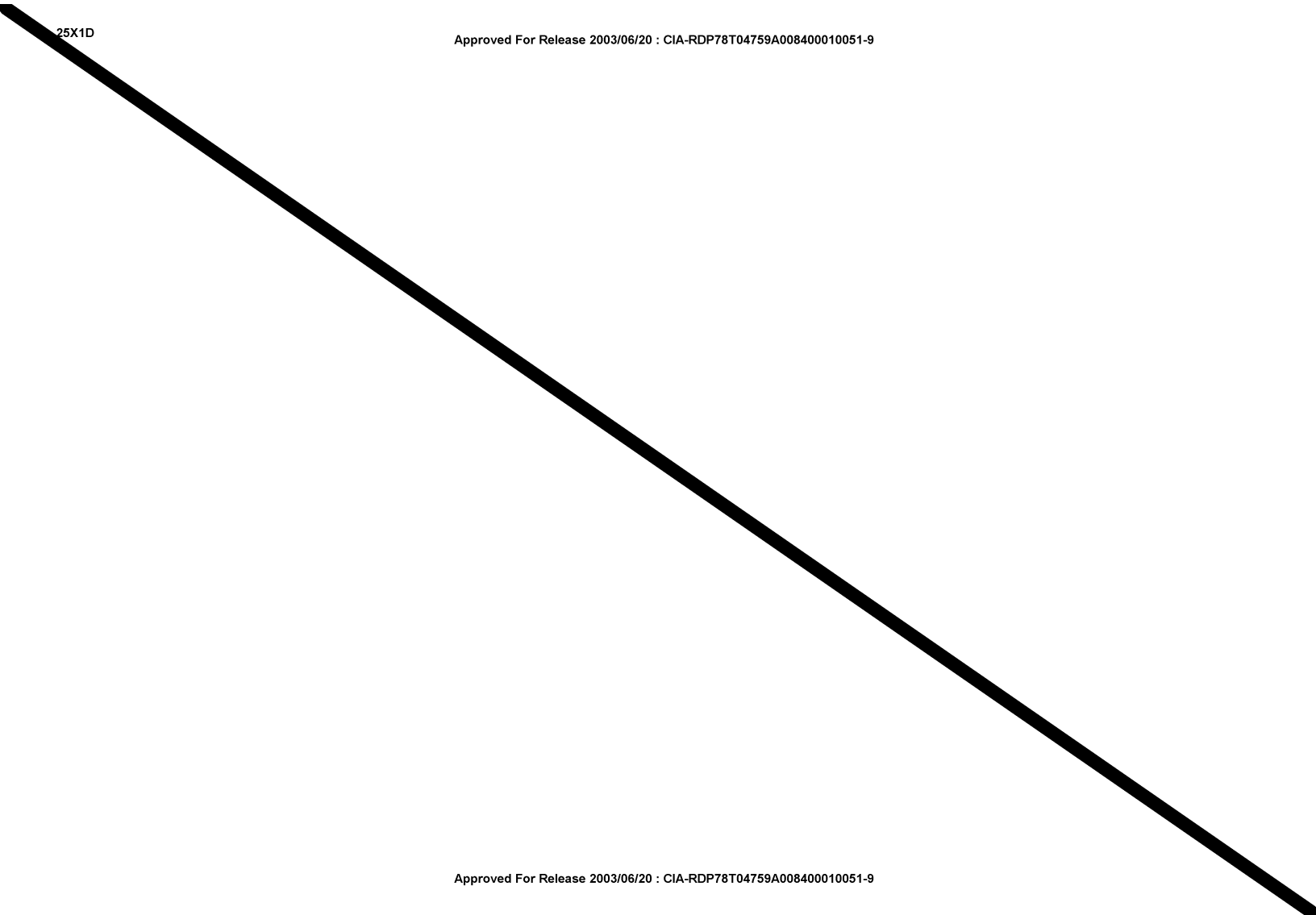
FIGURE 4. SUPPORT AREA, ABM LAUNCH COMPLEX E03 AND SAM SITE E03-1.



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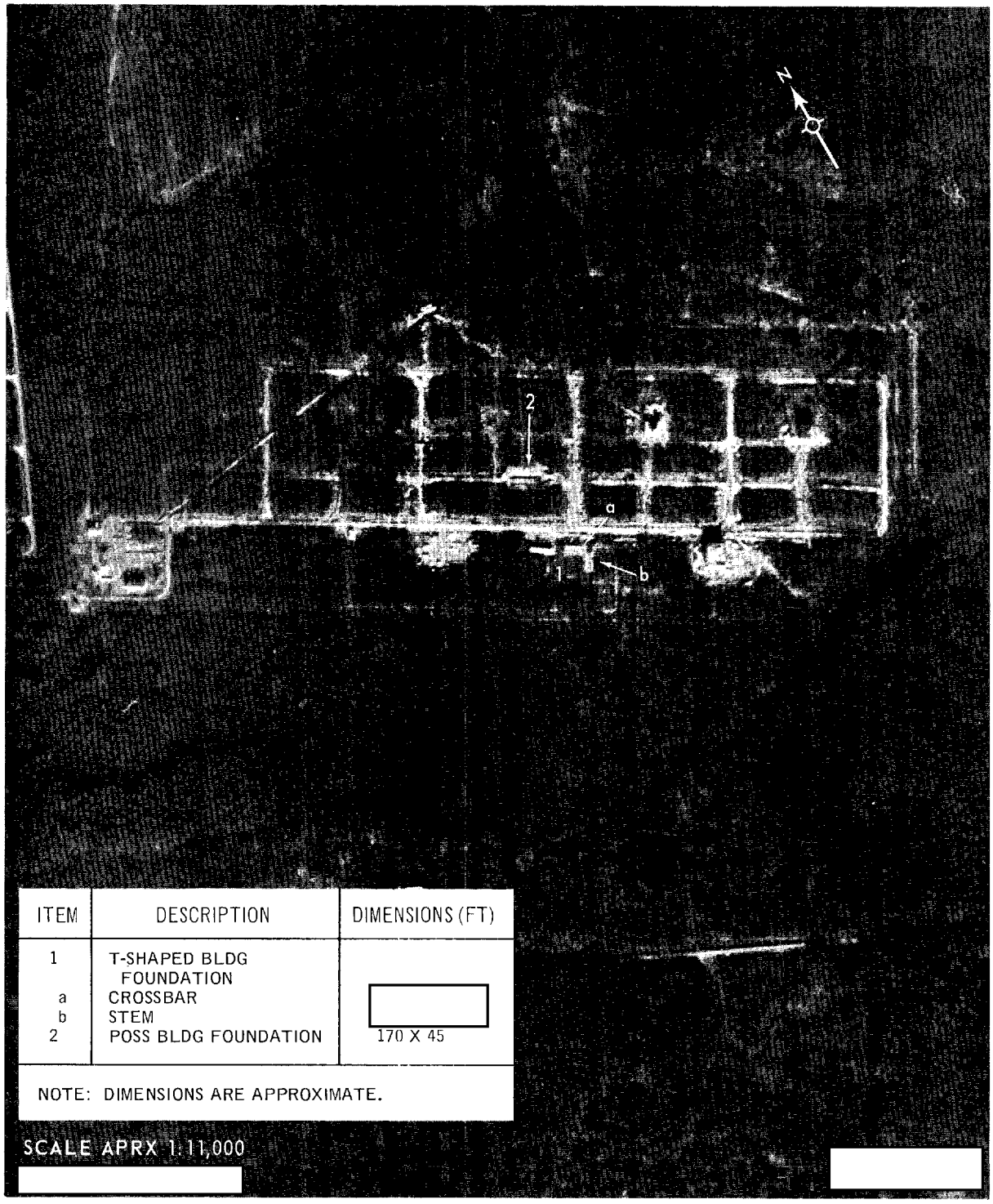
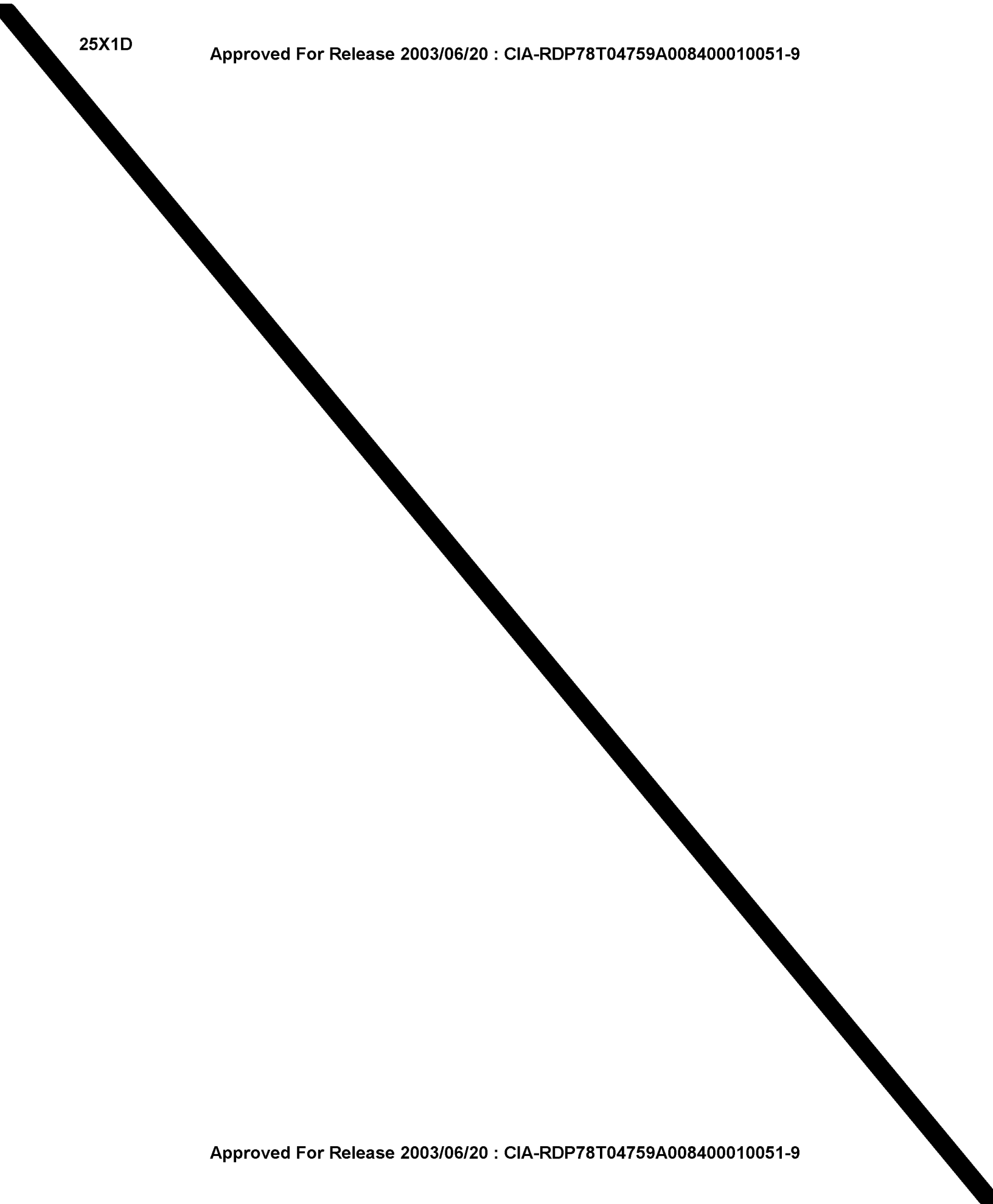


FIGURE 6. LAUNCH AREA, ABM LAUNCH COMPLEX E21. Approximately 19 months after start of construction.



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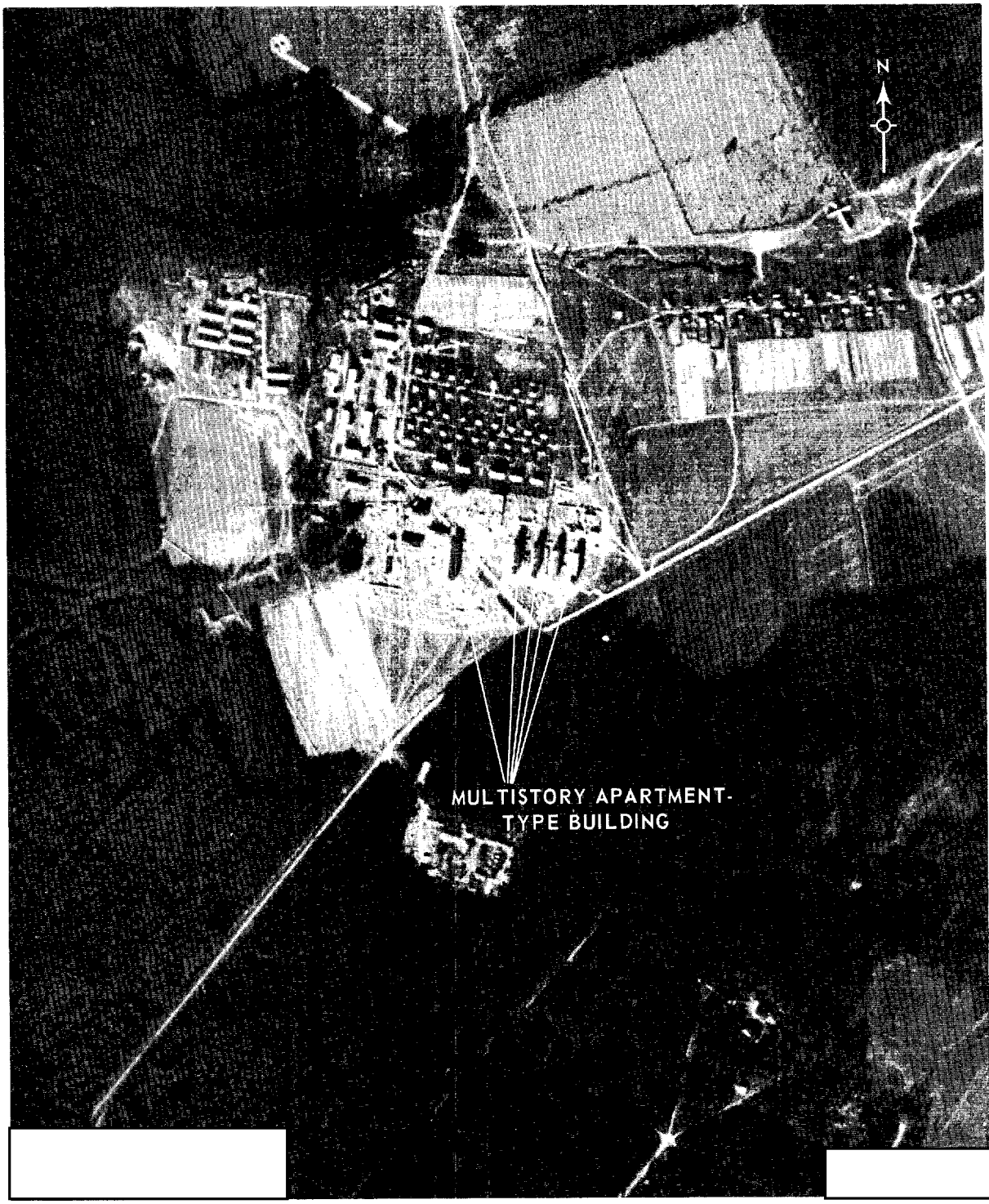

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FIGURE 8. SUPPORT AREA, ABM LAUNCH COMPLEX E21 AND SAM SITE E21-1.

25X1

Center (Figure 7). When the building was observed on photography [redacted] there appeared to be 5 rows of vertical uprights, approximately [redacted] apart respectively, along the short axis of the building, and 11 or 12 rows approximately 20 feet apart along the long axis of the building.

The second area of unusual construction is a possible building foundation, approximately 170 by 45 feet, located on one of the launch position service roads in the Triad 2 area. The possible foundation was started between [redacted] and the dimensions are similar to those of the drive-through missile-checkout building under construction at E03. The significance of this activity is that construction of a building at this location would apparently prevent construction of launch position 2C4.

Between [redacted] construction of a T-shaped building was initiated at the complex. As measured on small-scale photography, the foundation for the crossbar of the T is approximately 260 feet long and [redacted] wide. The foundation for the stem of the T is approximately 110 feet long and [redacted] (Figure 6). Also under construction within the secured area of the complex are a heatplant, the low-voltage switching building for the transformer substation, and a possible administration building.

The support area has not been observed on large-scale [redacted] photography. On small-scale photography of [redacted] it appeared that 5 multistory apartment-type buildings were either complete or in a late stage of construction. The remainder of the facilities are similar to those found at E03 and at the other deployed ABM launch complexes (Figure 8).

DISCUSSION

The reasons for the failure to construct a second triad facility at these 2 complexes cannot be satisfactorily explained from aerial photography. However, after consideration of deployment of the ABM launch complexes around Moskva, 2 basic observations can be made. The first is that there would not appear to be any known technological constraint against construction of a second triad at both complexes, as this has been done at ABM Launch Complexes E05, E24, E31, and E33. The other observation is that while the start of construction of Triad 2 lagged behind that of Triad 1 up to 31 months at one of the first deployed ABM launch complexes at Moskva (E24), at the first of the "second generation" complexes (E31) construction of Triad 2 was started only 11 months after that of Triad 1. Thus, if a second triad were to be constructed at E03 and at E21, presumably it would have been started before [redacted] the date of the latest photography utilized in this report. At E03, it would appear that the option for construction of the second triad has been left open. However, at E21, the location of the ancillary building construction in the Triad 2 area would seem to preclude construction of the second triad, at least in the manner in which it has been accomplished at all the other dual triad facilities at Moskva.

If there has been a change in the original deployment concept, this would mean that only the northwest quadrant would have 2 launch complexes with a dual triad facility each (32 potential GALOSH launch positions). The northeast and southwest quadrants would each have 1 launch complex with a dual triad and 1 complex with only a single triad (24 potential GALOSH launch positions in each quadrant). Therefore, the effect of the failure to construct a second triad at E03 and E21 would be the reduction by 16 of the number of GALOSH launch positions from what had been anticipated (from 96 to 80), excluding the dormant southeast quadrant.

25X1D

REFERENCES

[redacted]

MAPS OR CHARTS

ACIC series, scale 1:200,000

DOCUMENTS

25X1 1. NPIC. [redacted] *Possibly AMM-Related Activity, Four Moscow SA-1 SAM Sites, USSR*, Dec 65 (TOP SECRET

25X1 2. NPIC. [redacted] *Probable ABM Launch Complex E33, Moskva, USSR*, Mar 67 (TOP SECRET [redacted] 25X1

25X1 3. NPIC. [redacted] *ABM Launch Complex E24, Moskva, USSR*, Jan 68 (TOP SECRET [redacted] 25X1

REQUIREMENT

CIA. C-DI5-83,143 (revised)

NPIC PROJECT

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